

REMARKS

In the outstanding Office Action, claims 1-34 were presented for examination. Applicants have amended claims 1, 12, 16 and 23 and canceled claims 5 and 28. Applicants note with appreciation the Examiner's indication that the drawings filed on August 09, 2004 are accepted.

Applicants have amended the claims to more succinctly claim particular aspects of the invention. Support for the amendments is found in the specification and the original claims. Accordingly, applicants submit that no new matter has been introduced by the amendments.

Claims 5 and 28 have been cancelled. Accordingly, the rejections of claims 5 and 28 are now moot.

Claims 1-4, 7-8, 10, 12-15, 18-19, 21, 23, 25-27, 30-31 and 33 were rejected under 35 U.S.C. §102(e) as being anticipated by United States Patent No. 6,519,313 issued to Venkataramani et al (hereinafter "Venkataramani").

Claim 1 as amended discloses "a scintillator array for use in a CT imaging system, comprising: a plurality of projecting elements disposed proximate one another, the projecting elements configured to emit light in response to receiving x-rays; and a glass compound containing a plurality of reflective particles, the glass compound being disposed over and between the plurality of projecting elements, the glass compound including Chloride for reducing a refractive index of the glass compound."

Venkataramani, however does not teach a glass compound including Chloride for reducing a refractive index of the glass compound as recited in claim 1. Further, Venkataramani, does not teach a glass compound being disposed over and between the plurality of projecting elements as recited in claim 1. Rather, Venkataramani separately teaches 1) an x-ray absorbing layer 16 comprising x-ray absorbing material disposed in inter-scintillator regions, and 2) "a scintillation radiation reflecting layer 18 which extends over the top of the scintillator pixels ... made of an appropriate scintillation radiation reflecting material" (Venkataramani Col. 3 Lines 50-60). Still further, Venkataramani does not explicitly teach that scintillation reflecting

layer 18 contains a plurality of reflecting particles as recited in claim 1. Further, Venkataramani does not provide any teaching that the x-ray absorbing layer 16 has a plurality of reflective particles, as recited in claim 1. Thus, Venkataramani does not provide any teaching of a glass compound containing a plurality of reflective particles disposed over and between a plurality of projecting elements, as recited in claim 1 as amended.

Accordingly, because Venkataramani does not teach each and every limitation of claim 1, as amended, applicants submit that claim 1, and claims 2-4 and 6-11 which depend from claim 1 are allowable over this reference.

Referring to claim 12, as amended, the claim recites, in part,

“removing the fluid from the mixture to obtain a glass combination including glass particles and reflective particles;

“disposing the glass combination over and between a plurality of projecting elements disposed proximate one another;

“applying a pressure to the plurality of projecting elements and to the mixture; and

“heating the plurality of projecting elements and the mixture to a predetermined temperature to form the scintillator array.”

Applicants submit that Venkataramani does not provide any teaching of removing fluid from a mixture of particles of a glass compound and reflective particles in the fluid to obtain a fluidless mixture and then applying a pressure to the fluidless mixture, as recited in claim 12, as amended. In contrast, Venkataramani discloses dispersing a powdered metal or metal compound “within a liquid to form a precursor mix, such as a slurry”, which is then “impregnated into the inter-scintillator regions under pressure or vacuum” and then solidified under heat. (See Venkataramani Col. 7- 8). Further Venkataramani, does not teach a disposing the fluidless mixture over and between a plurality of projecting elements disposed proximate one another, as recited in claim 12 as amended.

Accordingly, because Venkataramani does not teach each and every limitation of claim 12, applicants respectfully submit that claim 12, as amended, and claims 13-22 which depend from claim 12, are allowable over this reference.

Claim 23, as amended, recites in part “ the glass compound disposed over and between the plurality of projecting elements [and] containing a plurality of reflective particles and a Chloride for reducing a refractive index of the glass compound”. Venkataramani, discloses two distinct layers: an x-ray absorbing layer 16 disposed between scintillator pixels 12 and a scintillation reflection layer 18 disposed over the scintillator pixels. However, Venkataramani does not provide any teaching of a glass compound having a plurality of reflective elements disposed over and between the plurality of projecting elements, as recited in claim 23. Further, Venkataramani does not provide any teaching of a glass compound including Chloride for reducing a refractive index as recited in claim 23.

Because Venkataramani does not teach each and every limitation of claim 23, as amended, applicants submit that claim 23, and claims 24-27 and 29-34 which depend from claim 23, are allowable over this reference.

Claim 16 was rejected under 35 U.S.C. §103(a) as being unpatentable over Venkataramani. Claim 16, as amended, includes the limitation of adding to the glass compound “a Chloride ... for reducing a refractive index of the glass compound.” Applicants submit that Venkataramani does not provide any teaching of the utilizing Chloride in a glass compound. Accordingly, applicants submit that claim 16 is allowable over this reference.

Further, applicants submit that no proper motivation to combine Chloride with the x-ray absorbing layer 16 of Venkataramani has been established. In particular, applicants note that Venkataramani teaches that a relatively high refractive index is desirable in the x-ray absorbing layer 16 (e.g. an index of refraction greater than 1.80) (Venkataramani Col. 3 Lines 48-49). Thus, there is no motivation in Venkataramani to reduce the index of refraction using Chloride. Accordingly, applicants submit that claim 16 is allowable over this reference.

Further, claim 16, as amended, depends directly from independent claim 12, as amended, which is believed to be in condition for allowance. Accordingly, applicants submit that claim 16 is also in condition for allowance.

Claims 6, 9, 11, 17, 20, 22, 29, 32 and 34 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Venkataramani in view of United States Patent No. 6,344,649 issued to

Riedner et al (hereinafter “Riedner”). Applicants submit that the references, alone or in combination, do not teach each and every limitation of the claims 6, 9, 11, 17, 20, 22, 29, 32 and 34 and further that no proper motivation to combine the references has been identified.

Referring to claims 6, 17 and 29, the claims recite that substantially all of the reflective particles are 100-300 microns in diameter. Riedner teaches that gaps 28 and 32 between scintillator elements may range from 10 to 160 microns in width. (Riedner Col 2, Lines 56-58). However, the size of gaps between scintillator elements does not refer to a diameter of reflective particles (or any other diameter). Rather, the gap size taught by Riedner limits the linear distance between scintillator elements. Accordingly, Riedner does not provide any teaching of reflective particles being 100-300 microns in diameter.

Referring to claims 9, 20 and 32, the claims recite a scintillator array including a glass compound containing a plurality of reflective particles in which “between 20-60 percent of a *volume* of the glass compound comprises the reflective particles”. (emphasis added). It is clear that the “castable polymer” of Riedner claims 1 and 6 is an epoxy, and is not a glass. Riedner teaches “reflective material 36 includ[ing] 20% to 70% by *weight* TiO₂ and a castable epoxy.” (Riedner Col 2 Line 67 – Col 3 Line1, emphasis added). Therefore, “20% to 70% by weight of TiO₂ and a castable epoxy” does not equate to and is not comparable with “20-60 percent of a volume of [a] glass compound,” as recited in claims 9, 20 and 32.

Referring to claims 6, 9, and 11 which depend from claim 1, as amended, applicants submit that the combination of Venkataramani with Riedner does not teach each and every limitation of claim 1, as amended, nor therefore of claims 6, 9, and 11. Specifically, Venkataramani and Riedner alone or in combination do not provide any teaching of “a glass compound containing a plurality of reflective particles being disposed over and between the plurality of projecting elements, the glass compound including Chloride for reducing a refractive index of the glass compound,” as recited in claim 1 and dependent claims 6, 9 and 11.

Referring to claims 17, 20 and 22 depend from claim 12, as amended, applicants submit that the combination of Venkataramani with Riedner does not teach each and every limitation of claim 12, as amended, nor therefore of claims 17, 20, and 22. Specifically, Venkataramani and Riedner, alone or in combination do not teach “mixing a plurality of particles of a glass

compound with a plurality of reflective particles in a fluid to obtain a mixture; removing the fluid from the mixture to obtain a fluidless mixture; [and] disposing the fluidless mixture over and between a plurality of projecting elements disposed proximate one another,” as recited in claim 12 and dependent claims 17, 20 and 27.

Referring to claims 29, 32 and 34 which depend from claim 23, as amended, applicants submit that the combination of Venkataramani with Riedner does not teach each and every limitation of claim 23, as amended, nor therefore of claims 29, 32, and 34. Specifically, Venkataramani and Riedner, alone or in combination do not provide any teaching of “a scintillator array having a plurality of projecting elements disposed proximate one another, the projecting elements configured to emit light in response to receiving x-rays, and a glass compound disposed over and between the plurality of projecting elements, the glass compound containing a plurality of reflective particles and a Chloride for reducing a refractive index of the glass compound,” as recited in claim 23 and dependent claims 29, 32 and 34.

Accordingly, because the combination of Venkataramani and Riedner does not teach each and every limitation of claims 6, 9, 11, 17, 20, 22, 29, 32 and 34, applicants submit that claims 6, 9, 11, 17, 20, 22, 29, 32 and 34 are allowable over these references.

Claim 24 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Venkataramani in view of United States Patent No. 6,091,795 issued to Schafer et al (hereinafter “Schafer”). Applicants submit that Venkataramani and Schafer, alone or in combination, do not teach each and every limitation of claim 24. In particular, neither reference, alone or in combination, provides any teaching of “a scintillator array having a plurality of projecting elements disposed proximate one another, the projecting elements configured to emit light in response to receiving x-rays, and a glass compound disposed over and between the plurality of projecting elements as recited in claims 23 and dependent claim 24. Further, neither reference provides any teaching of glass compound containing a plurality of reflective particles and Chloride for reducing a refractive index of the glass compound,” as recited in claim 23, and dependent claim 24.


Accordingly, because the references do not teach each and every limitation of claim 24, applicants submit that claim 24 is allowable over these references.

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In view of the foregoing amendments and remarks, applicants respectfully submit that the instant application is in condition for allowance. Such action is most earnestly solicited. If for any reason the Examiner feels that consultation with applicants' attorney would be helpful in the advancement of the prosecution, the Examiner is invited to call the telephone number below for an interview.

If there are any charges due with respect to this Amendment or otherwise, please charge them to Deposit Account No. 07-0845.

Respectfully Submitted,
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